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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>03 February 2006</u>.

2a)☐ This action is FINAL.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>11-19 and 24-29</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>11-19 and 24-29</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>03 February 2006</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some *   c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☒ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>03 February 2006</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Specification

1.   The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: claims 25, 29 line 1 recites "a computer readable medium," however, it is not described in the specification.

Drawings

2.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "260" and "200" have both been used to designate GPRS/UMTS network in Fig. 2 and Fig. 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3.   Claims 11, 18, 25, 29 are objected to under 37 CFR 1.75 because of the

following informalities:

Claim 11 line 8 recites "the destination address." It is suggested that applicant

changes "the destination address" to -- a destination address --.

Claim 11 line 17 recites "a hop-by-hop." It is suggested that applicant changes "a

hop-by-hop" to – the hop-by-hop --.

Claim 18 line 9 recites "the destination address." It is suggested that applicant

changes "the destination address" to -- a destination address --.

Claim 18 line 18 recites "a hop-by-hop." It is suggested that applicant changes "a

hop-by-hop" to – the hop-by-hop --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

Claim 11-17, 26, 27, 29 is rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

For claims **11-17**, Applicant has claimed both an apparatus and the process of

using the apparatus and it is indefinite (See MPEP 2173.05(P)). A gateway support

node *is operable to* provide interface, detect, recover, control, allow packets.

Claims 26, 27 are also rejected based upon the rejection of base claim 12.

For claims 29, Applicant has claimed "information signals representative of the

computer program (lines 1-2)." However, it is unclear what constitutes the "information

signals" representative of the computer program.

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter,
or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
requirements of this title.

6.   **Claims 11-17, 24-29** are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter.

For claims 11-17, Applicant has claimed both an apparatus and the process of

using the apparatus. A gateway support node *is operable to* provide interface, detect,

recover, control, allow packets. Therefore, the claims are directed to neither a "process"

nor a "machine" (See MPEP 2173.05(P)).

Claims 26, 27 are rejected based upon the rejection of parent claim 12.

For claim 24, 28, Applicant has claimed "computer program product"; this

implies that Applicant is claiming a system of software, per se, lacking the hardware

necessary to realize any of the underlying functionality. Therefore, claim 24, 25 are

directed to non-statutory subject matter as computer programs, per se, i.e. the

descriptions or expressions of the programs, are not physical "thing."

Claims 25, 29 are rejected based upon the rejection of base claims 24, 28.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

    1.   Determining the scope and contents of the prior art.
    2.   Ascertaining the differences between the prior art and the claims at issue.
    3.   Resolving the level of ordinary skill in the pertinent art.
    4.   Considering objective evidence present in the application indicating
            obviousness or nonobviousness.

9.   **Claims 11-19, 24-29** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Lee et al. (US 6,915,325) in view of Rinne et al. (US 6,845,100).

For claims 11, 18, Lee discloses a system and a method comprising:

• a gateway support node (Fig. 3 60: correspondent agent) operable to provide an

interface between an external packet data communications network and a packet

radio network (Fig. 3), the packet radio network providing a plurality of packet

data bearers for communicating the internet packets with nodes attached to the

packet radio network (Fig. 3; col 1 lines 7: mobile nodes; col 3 lines 55-57:

tunnels), each of the packet data bearers being defined with respect to a source

home address of nodes communicating the internet packets (col 3 lines 55-57:

tunnels; col 7 lines 7-11: mobile node's home address in a packet), the gateway

support node (Fig. 3 60: correspondent agent) being arranged to receive an

internet packet comprising a header field, the header field including a field

identifying a source address of the internet packet, a field identifying the

destination address of the internet packet (col 7 lines 3-5: IP source/destination

address in header) and a next header field identifying whether an extension

header follows the header, the header field identifying that the extension header

includes a hop-by-hop extension header, the hop-by-hop extension header

including a router alert option header indicating that the hop-by-hop extension

header is optional for a router to read (col 3 lines 62-66: Router Alert alerting

programmed routers to review; The hop-by-hop extension implicitly exists since

portion of the Binding Update includes Router Alert option), the remainder of the

hop-by-hop extension header including a field providing a home address of a

mobile node (col 7 lines 7-11: mobile node's home address in a packet), the

gateway support node being operable upon receipt of the internet packet (Fig. 3

60: correspondent agent)

- to detect that the next header field of the internet packet includes a hop-by-hop extension header (col 4 lines 4-8: recognizing a Binding Update including a Router Alert), and

- to detect the router alert option header in the hop-by-hop extension header (col 4 lines 4-8: recognizing a Binding Update including a Router Alert), to recover information from a field provided in the remainder of the hop-by-hop extension header for use in controlling egress and/or ingress of internet packets to the packet radio network in accordance with the information (Fig. 3; col 7 lines 2-12: restoring the IP destination address to the mobile node's home address. It can be accomplished by using either encapsulation method or not; col 4 lines 17: message traveling through the tunnel) , wherein

- the gateway support node is operable (Fig. 3 60: correspondent agent)

- to control ingress of internet packets from the external communications network to the packet data bearers of the packet radio network (Fig. 3; col 4 lines 4-8: correspondent agent recognizing a Binding Update including a Router Alert), by

- detecting from the information field provided in the remainder of the hop-by-hop extension header a source home address of a mobile correspondent node communicating the internet packets (Fig. 3; col 4 lines 4-8: correspondent agent recognizing a Binding Update including a Router Alert; col 7 lines 7-11: mobile node's home address in a packet),

- using the home address to identify the packet data bearer for communicating the internet packets to a correspondent node attached to the packet radio network

(col 4 lines 11-18: after forming tunnel by binding mobile node address with the care of address, the message travels through the tunnel; col 7 lines 2-12: changing the IP destination address from the mobile node's home address to the care-of address. It can be accomplished by using either encapsulation method or not), and

- allowing ingress of the internet packets to the identified packet data bearer (col 4 lines 11-18: the message travels through the tunnel).

Lee discloses all the subject matter of the claimed invention with the exception for a type of the extension header and detecting the value field indicating that the remainder of the hop-by-hop extension header field is for the gateway support node. Rinne discloses a type of the extension header and detecting the value field indicating that the remainder of the hop-by-hop extension header field is for the gateway support node (Fig. 3: GGSN; Fig. 11, col 15 lines 14-17: type value, a value field's length). Therefore, it would have been obvious to the person of ordinary skill in the art at the time of invention was made to incorporate a type of the extension header and detecting the value field indicating that the remainder of the hop-by-hop extension header field is for the gateway support node of Rinne to the system and the method of Lee. The motivation would have been to provide RNC reporting a difference between the requested maximum allowed latency and the realized latency time to enable fast transport format set reconfiguration in case of problems by using latency counter defined in hop-by-hop option field (Rinne col 14 lines 64-67; col 15 lines 12-19).

For **claim 16** referenced by claim 11, Lee discloses a packet radio network
operable to communicate internet packets between an external packet data network
and nodes associated with the packet radio network (Fig. 3), the packet radio network
providing a plurality of packet data bearers for communicating the internet packets to
and/or from the nodes attached to the packet radio network, the packet radio network
including a gateway support node (Fig. 3 60: correspondent agent; col 1 lines 7: mobile
nodes; col 3 lines 55-57: tunnels).

For **claims 24, 28** referenced by claims 18, 19, Lee discloses a computer
program having computer executable instructions, which when loaded on to a data
processor causes the data processor to perform a method (col 9 lines 9-19).

For **claims 25, 29** referenced by claim 24, 28, Lee discloses a computer
program product having a computer readable medium having recorded thereon
information signals representative of the computer program (col 9 lines 9-19).

For **claim 12,** Lee discloses

- the gateway support node being operable (Fig. 3 60: correspondent agent) to
  allow ingress of the internet packets (col 4 lines 11-18: the message travels
  through the tunnel) if either the address in the source address field of the internet
  packet or the address provided in the field in hop-by-hop extension header for
  the gateway support node corresponds to a packet data bearer (col 4 lines 11-
  18: after forming tunnel by binding mobile node address with the care of address,
  the message travels through the tunnel; col 7 lines 2-12: IP destination address

as care-of address in header, changing the IP destination address from the mobile node's home address to the care-of address. It can be accomplished by using either encapsulation method or not)

For claims 13, 19, 26, Lee discloses

- the gateway support node (Fig. 3 60: correspondent agent) being operable to perform egress packet filtering in accordance with a destination address of the internet packets received from the plurality of packet data bearers, egress of the internet packets being allowed for internet packets having a legitimate destination address, and upon receipt of the internet packet (col 7 lines 22-25: filtering to match the mobile node home address and translating the IP destination address to the care-of address, 25-28: correspondent agent receiving data addressed to the mobile, existing firewall functions will match and translate the data according to the filter)

- to detect from the information data provided in the hop-by-hop extension header field for the gateway support node a destination home address of a mobile correspondent node which is to be the destination of the internet packets (col 4 lines 4-8: recognizing a Binding Update including a Router Alert; col 7 lines 2-12: restoring the IP destination address to the mobile node's home address. It can be accomplished by using either encapsulation method or not), and

- to allow egress of the internet packets if the gateway support node recognizes the destination home address as a legitimate home address (col 7 lines 22-25:

filtering to match the mobile node home address and translating the IP

destination address to the care-of address, 25-28: correspondent agent receiving

data addressed to the mobile, existing firewall functions will match and translate

the data according to the filter; col 4 lines 17: message traveling through the

tunnel; it is obvious that the message travels through the tunnel only if matching

the criteria of firewall)

For claims 14, 27, Lee discloses

- the gateway support node being operable to allow egress of the internet packets

  if either the address in the destination address field of the packet or the address

  provided in the hop-by-hop extension header for the gateway support node is a

  legitimate destination address (col 3 lines 62-66: Router Alert alerting

  programmed routers to review; The hop-by-hop extension implicitly exists since

  portion of the Binding Update includes Router Alert option; col 7 lines lines 2-12:

  IP destination address as care-of address in header, changing the IP destination

  address from the mobile node's home address to the care-of address. It can be

  accomplished by using either encapsulation method or not, 22-25: filtering to

  match the mobile node home address and translating the IP destination address

  to the care-of address, 25-28: correspondent agent receiving data addressed to

  the mobile, existing firewall functions will match and translate the data according

  to the filter; col 4 lines 17: message traveling through the tunnel; it is obvious that

  the message travels through the tunnel only if matching the criteria of firewall)

For claim 15, Lee discloses

- the gateway support node is operable (Fig. 3 60: correspondent agent).

Lee discloses all the subject matter of the claimed invention with the exception for a Gateway GPRS Support Node (GGSN), according to the General Packet Radio System standard. Rinne discloses a Gateway GPRS Support Node (GGSN), according to the General Packet Radio System standard (Fig. 3: GGSN; col 6 lines 16-18: GPRS). Therefore, it would have been obvious to the person of ordinary skill in the art at the time of invention was made to incorporate a Gateway GPRS Support Node (GGSN), according to the General Packet Radio System standard of Rinne to the system and the method of Lee. The motivation would have been to take place QoS classification in the 3G GGSN to better optimize the air interface and to solve the arising congestion problems in the best possible way (Rinne col 5 lines 19-22; col 8 lines 25-26).

For claim 17, Lee discloses

- the packet radio network is operable, the gateway support node (Fig. 3)

Lee discloses all the subject matter of the claimed invention with the exception for General Packet Radio System (GPRS) standard and Gateway GPRS Support Node (GGSN). Rinne discloses General Packet Radio System (GPRS) standard and Gateway GPRS Support Node (GGSN) (Fig. 3: GGSN; col 6 lines 16-18: GPRS). Therefore, it would have been obvious to the person of ordinary skill in the art at the time of invention was made to incorporate General Packet Radio System (GPRS) standard and Gateway

GPRS Support Node (GGSN) of Rinne to the system and the method of Lee. The motivation would have been to take place QoS classification in the 3G GGSN to better optimize the air interface and to solve the arising congestion problems in the best possible way (Rinne col 5 lines 19-22; col 8 lines 25-26).

Conclusion

10.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jae Y. Lee whose telephone number is (571) 270-3936. The examiner can normally be reached on Monday through Friday from 7:30 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Ryman can be reached on (571) 272-3152. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jae Y Lee/   /Daniel J. Ryman/
Examiner, Art Unit 2619   Supervisory Patent Examiner, Art
                                                 Unit 2619